the degree of deterioration will become significant is high.

OBJECTS AND SUMMARY OF THE INVENTION

To solve the problem, the present invention is characterized in that a quality control device for voice packet communications for transmitting voice packets through a quality non-assurance type network comprises (1) a buffer memory for temporarily storing voice packets received through the network and forming a queue of the received voice packets, (2) a queue operating means for operating the queue in accordance with an operation control signal to be supplied, (3) a sequence examining means for examining vocal properties of a sequence of voice information contained in a plurality of voice packets that constitute the queue stored in the buffer memory, and (4) an operation control means for changing the operation control signal in accordance with an examination result of the sequence examining means.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a schematic diagram that shows a structure of a principal part of a voice communications system according to a first embodiment.

Fig. 2 is a schematic diagram that shows a structure of a buffer device of the first embodiment.

Fig. 3 through Fig. 6 show various methods of determining a voice packet to be deleted.

Fig. 7 is a schematic diagram that shows a structure of the buffer device of the first embodiment.

Fig. 8 is a schematic diagram that shows a structure of a principal part of a voice communications system according to a second embodiment.

Fig. 9 is a schematic diagram that shows a structure of a principal part of a voice communications system according to a third embodiment.

Fig. 10 is a schematic diagram that shows a structure of a buffer device according to the third embodiment.

Fig. 11 is a schematic diagram that shows a structure of a principal part of a voice communications device according to a fourth embodiment.

Fig. 12 is a schematic diagram that shows a structure of a principal part of a voice communications system according to a fifth embodiment.

Fig. 13 is a schematic diagram that shows a structure of a buffer device according to the fifth embodiment.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

(A) Embodiments

A description will be hereinafter given of embodiments in a case where a quality control device for voice packet communications according to the present invention is applied to a voice communications device disposed on the Internet.

This voice communications device corresponds to, for example, VoIP (Voice Over IP), in which conversational voices are exchanged bi-directionally or mono-directionally through the Internet. As one example, the voice

communications device may be an Internet phone.

(A-1) Structure of First Embodiment

A structure of a principal part of a voice communications system 10 that includes a voice communications device 12 of this embodiment is shown in Fig. 1.

In Fig. 1, the voice communications system 10 includes a voice communications device 11, a network 15, and a voice communications device 12.

In Fig. 1, the voice communications device 11 functions as a sending side, and the voice communications device 12 functions as a receiving side. The voice communications device 11 may be a communications device used exclusively for transmission, and the voice communications device 12 may be a communications device used exclusively for reception. Of course, they may be each transmitting/receiving device provided with functions of both transmission and reception. The structure and operation of the transmitting/receiving device can be obtained merely by replacing the voice communications devices 11 and 12 with each other and combining them in Fig. 1. Therefore, a description will be hereinafter given of only the case where the voice communications device 11 functions as the sending side whereas the voice communications device 12 functions as the receiving side.

The network 15 where the voice communications devices 11 and 12 are connected is the Internet in this embodiment